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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,193	11/03/2003	Adam Bergeron	78314 18-18US	3949

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ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A.  
1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE  
P.O. BOX 3791  
ORLANDO, FL 32802-3791

EXAMINER

DOAN, JENNIFER

ART UNIT PAPER NUMBER

2874

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/700,193

Applicant(s)

BERGERON ET AL.

Examiner

Jennifer Doan

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>110303</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 11/03/03, have all been considered and made of record (note the attached copy of form PTO-1449).

### ***Drawings***

2. The drawings, filed on 11/03/03, are accepted.

### ***Specification***

3. Applicants' cooperation is requested in correcting any errors of which applicants may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 5-7 and 12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Scobey et al. (U.S. 6,320,996 B1).

With respect to claims 1, 14 and 15, Scobey, in Figure 8, shows a first multicavity variable optical filter (68) having a top end defining a first surface and a bottom end defining a second surface, the multicavity variable optical filter (68) selectably operable to pass one channel (26) while reflecting n-1 other channels (27) or to reflect one channel while passing n-1 other channels, wherein the selection of the one channel to be passed or reflected depends upon a location where light is launched into one of the top and bottom ends of the first multicavity optical filter (68); and a broadband optical reflector (36) directly adjacent to the multicavity variable optical filter (68) and disposed between planes coincident with the first and second surfaces, the broadband reflector (36) having a reflectivity that will reflect all n channels of light (see abstract and column 10, lines 58 through column 11, lines 31).

With respect to claim 2, Scobey, in Figure 8, shows wherein the broadband filter (68) is spaced from the planes coincident with the first and second surfaces.

With respect to claim 3, Scobey shows wherein the variable broadband optical filter (68) is comprised of a first group of layers of high and low refractive index material, and wherein the broadband reflector is comprised of second different group of layers of alternating high and low refractive index material, and wherein the broadband reflector has a reflectivity that will reflect the n channels of light (see column 11, lines 31-54).

With respect to claim 5, Scobey, in Figure 8, shows wherein the broadband optical reflector is formed by providing an optical cavity substantially different from the

other optical cavities such that decoupling from the other cavities occurs to thereby cause reflection to substantially all of the  $n$  channels of light.

With respect to claim 6, Scobey shows wherein the broadband filter is comprised of one or more metal or a dielectric layers (see column 11, lines 42-43).

With respect to claim 7, Scobey, in Figure 8, wherein the broadband optical reflector is located distal from the plane coincident with the top and bottom ends at a location for simultaneously lessening phase mismatch and optical path length delay between different channels of light.

With respect to claim 12, Scobey, in Figure 8, shows further comprising means for selectively repositioning a light beam including the  $n$  channels along the first variable multicavity filter or along the broad band reflector or there between.

With respect to claim 13, Scobey, in Figure 8, shows a multicavity optical filter (68) having a first region operable to add or drop an optical wavelength channel selected from a plurality of optical wavelength channels; and a second region, adjacent to said first region, said second region operable as a broadband optical reflector (36), wherein the first region comprises a tunable optical filter and wherein the second region includes a partial quarter wave or odd multiple quarter wave layer within the multicavity filter (see abstract, column 10, lines 58 through lines 54).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 4 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scobey et al. (as cited above).

With respect to claims 4 and 8-11, Scobey (figure 8) shows a filter (68 having a first transmissive region and a second reflective region, the regions disposed between first and second opposite ends of the filter, a first end of the transmissive region for

receiving a beam of light (26) including a plurality of wavelength channels of light, and a second end of the transmissive region transmitting a different one of the channels of light there through in dependence upon a light receiving position on the first end of the filter (68), wherein the filter (68) includes a plurality of optical cavities between opposite ends of the filter, the second reflecting region including a broadband optical reflector to all of the different channels of light, wherein the broadband optical reflector is disposed within or between one of the optical cavities (see abstract, column 10, lines 58 through lines 54); wherein the broadband optical reflector is substantially a quarter wave or integer multiple of a quarter wave in thickness (see column 11, lines 31-48); further wherein the broadband optical reflector comprises a layer which covers only a portion of the filter so that as a beam is positioned to be incident upon the first end of the filter, it may be positioned to be incident upon the transmitting region or the reflecting region (see figure 8).

Scobey does not disclose the broadband optical reflector is a layer having a thickness other than a half wave, or integer multiple of a half wave.

However, the broadband optical reflector being a layer having a thickness other than a half wave, or integer multiple of a half wave is considered to be obvious, since the efficiency of the optical transmission is dependent on the thickness of the reflector layer. Such an element would advantageously provide a highly efficient transmission of optical signal. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the reflector layer of Scobey's device with the values as claimed to transmit the light beam for the purpose of obtaining the

highly efficient transmission of optical signal, and it also has been held that discovering an optimum value of a result effective variable involves only routine skill in the art and it is noted that the applicant does not disclose criticality in the value claimed. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (see MPEP § 2144.05).

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Duggan (U.S. 6,909,548) discloses an optical filter.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00 am to 3:30 pm, second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should



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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink that reads "Jennifer Doan". The signature is written in a cursive style with a large, stylized 'J' and 'D'.

Jennifer Doan

Patent examiner

September 2, 2005